ecoPower Generation – Hazard, LLC

58 MW Biomass Plant

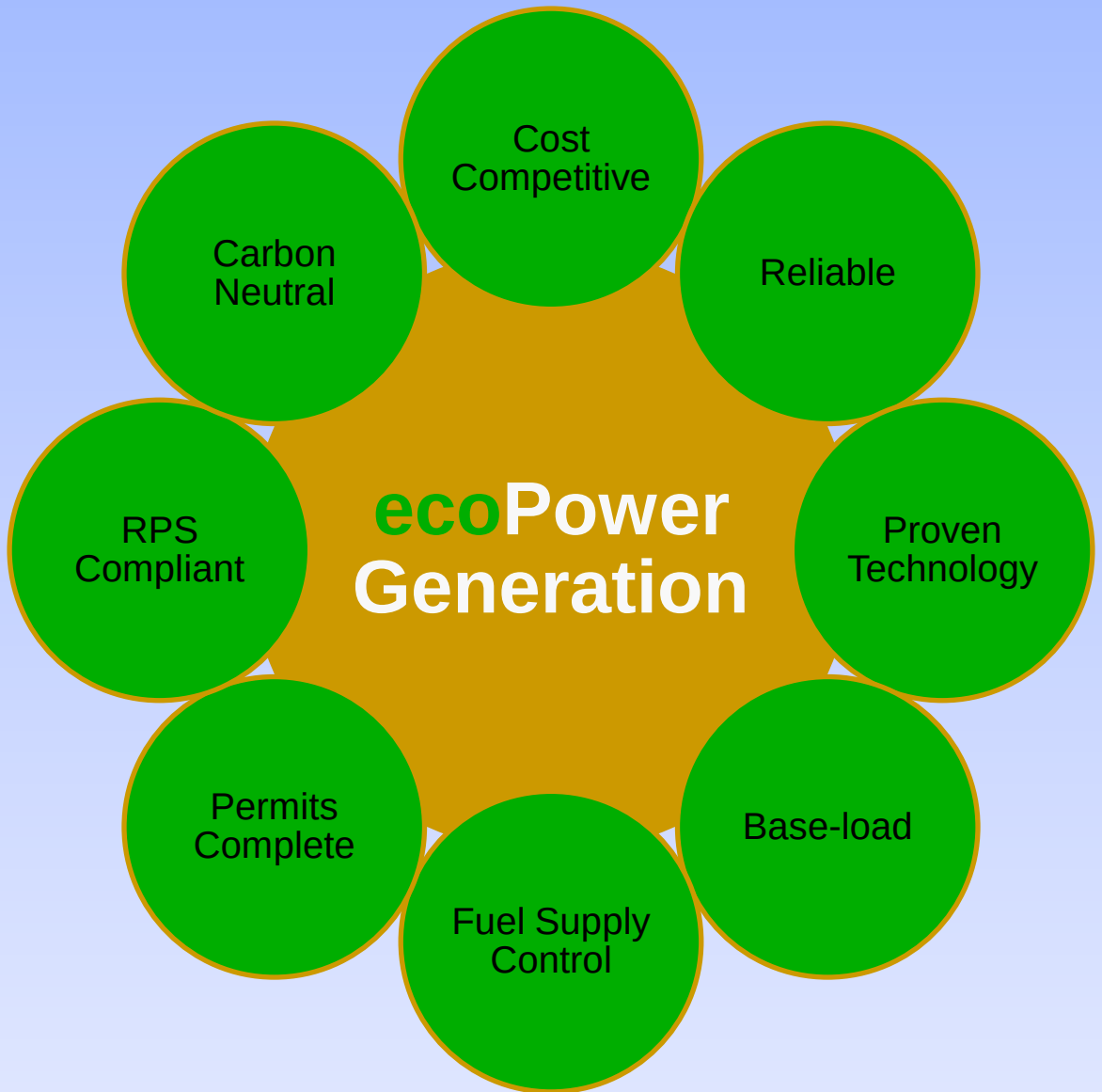
Overview

October 21, 2010

Description

CAPACITY	58 MW (Nominal)
LOCATION	Hazard, Kentucky
FUEL	Residual hardwood biomass
TECHNOLOGY	Circulating fluidized bed combustion with steam turbine, air cooled condenser, and on-site fuel prep/material handling
LOAD FACTOR	88% annual average
HEAT RATE	12,500 Btu/kWh
INTERCONNECT	69kV Engle substation connection with AEP
OPERATION DATE	Q2 – 2013

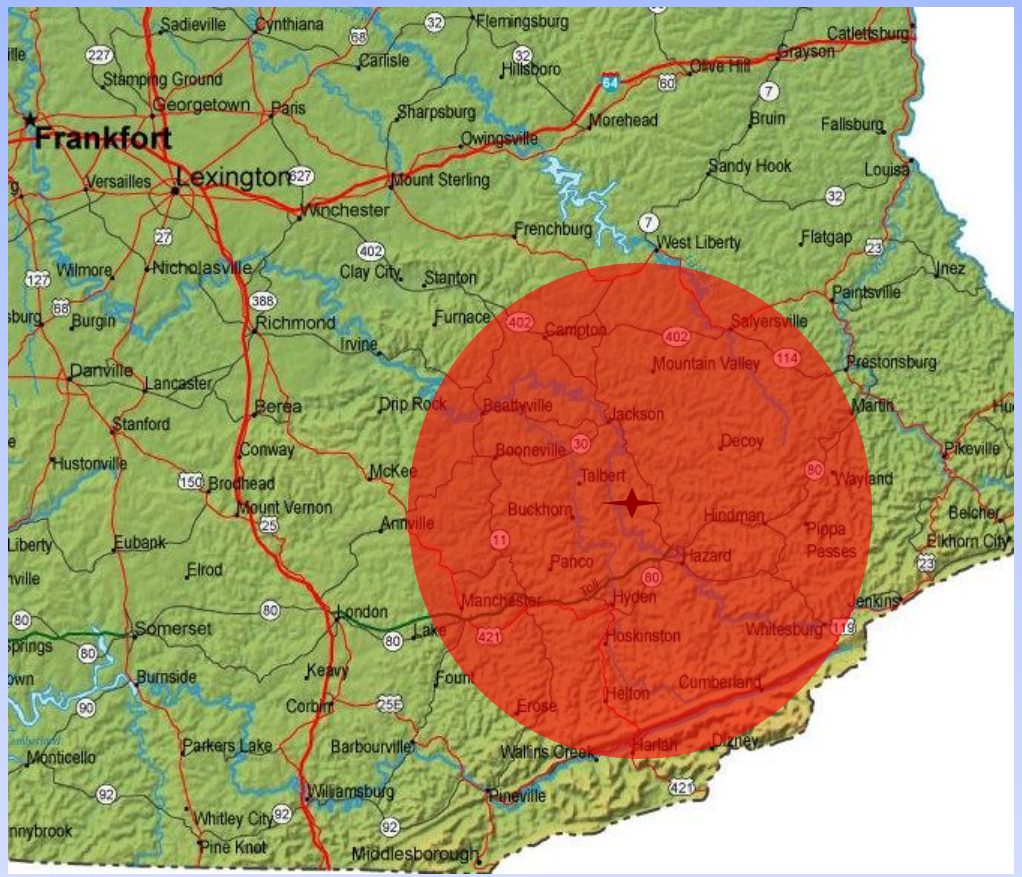
Advantages


Cost Competitive
Reliable
Proven Technology
Base-load
Fuel Supply Control
Permits Complete
RPS Compliant
Carbon Neutral
ecoPower Generation

Site Location

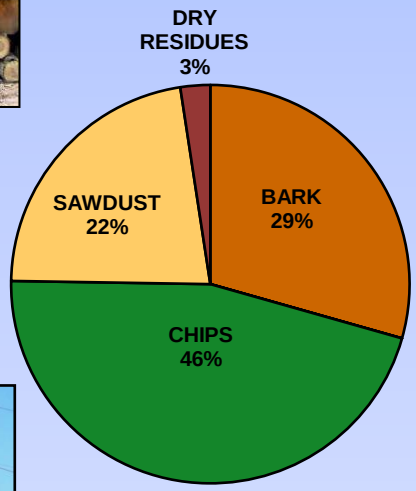
- Located in Engle, approximately 10 miles Northwest of Hazard, KY
- 125 Acres of unimproved land
- Optioned from Coal Fields Industrial Park in October 2009

Fuel Supply



- "Wood Basket" is a 55 mile radius of the plant
- Nearly 50% of feedstock committed
- Net annual growth is 2x plant needs
- 300+ years of reserves
- 20 year history of local wood purchasing

Residual Fuel Supply



Fuel Supply

DESCRIPTION	VOLUME	UNITS	
Plant Needs	*540,000*	*Tons/Yr*	
Committed Volumes	*235,000*	*Tons/Yr*	
Net Plant Needs	*305,000*	*Tons/Yr*	
Available Fuel Sources			MULTIPLE
*Net Growth Grade 4 & 5**	*400,000*	*Tons/Yr*	*1.3*
*Inventory Grade 4 & 5***	*67,770,000*	*Tons*	*225.7*

** Net of removal rate by existing wood industry.*

*** Per independent American Forest Mgmt. Inc. data 2001-2005.*

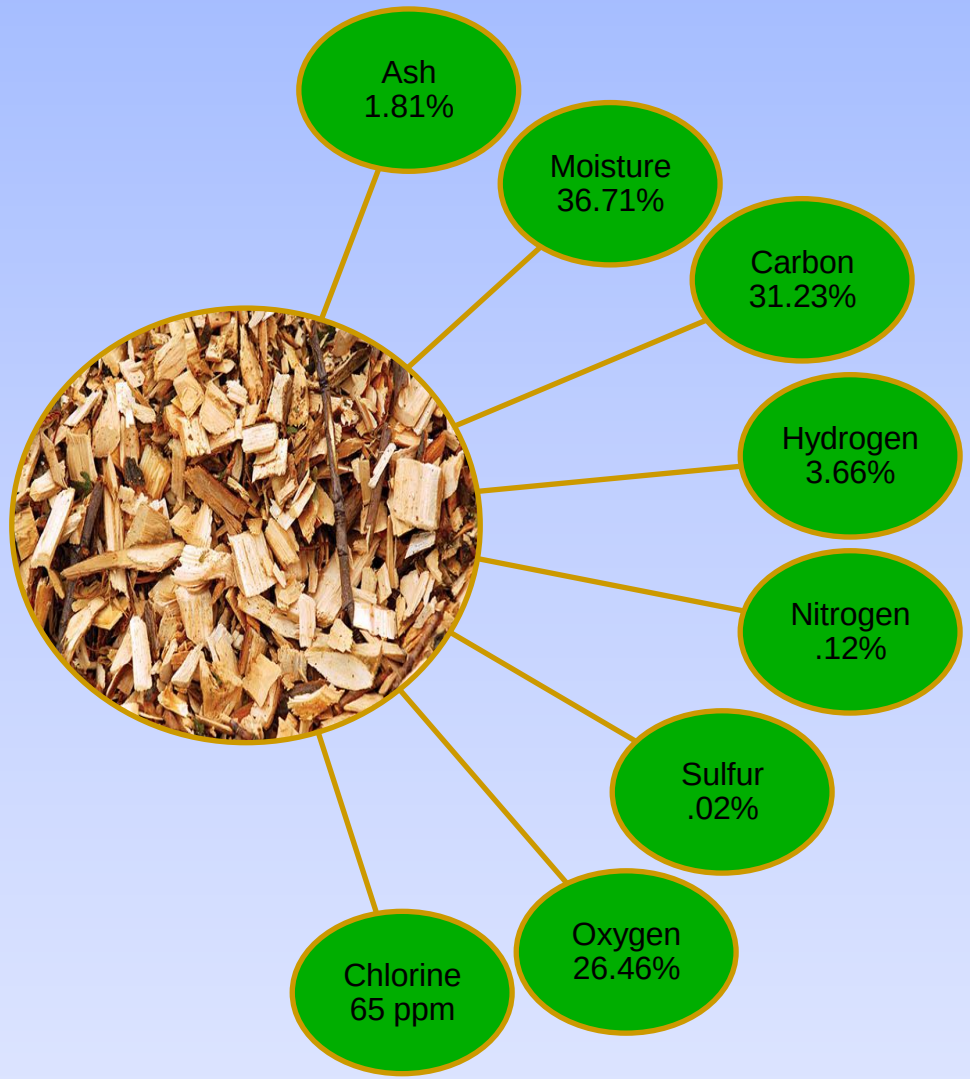
Biomass Fuel Composition

Air Permit Criteria

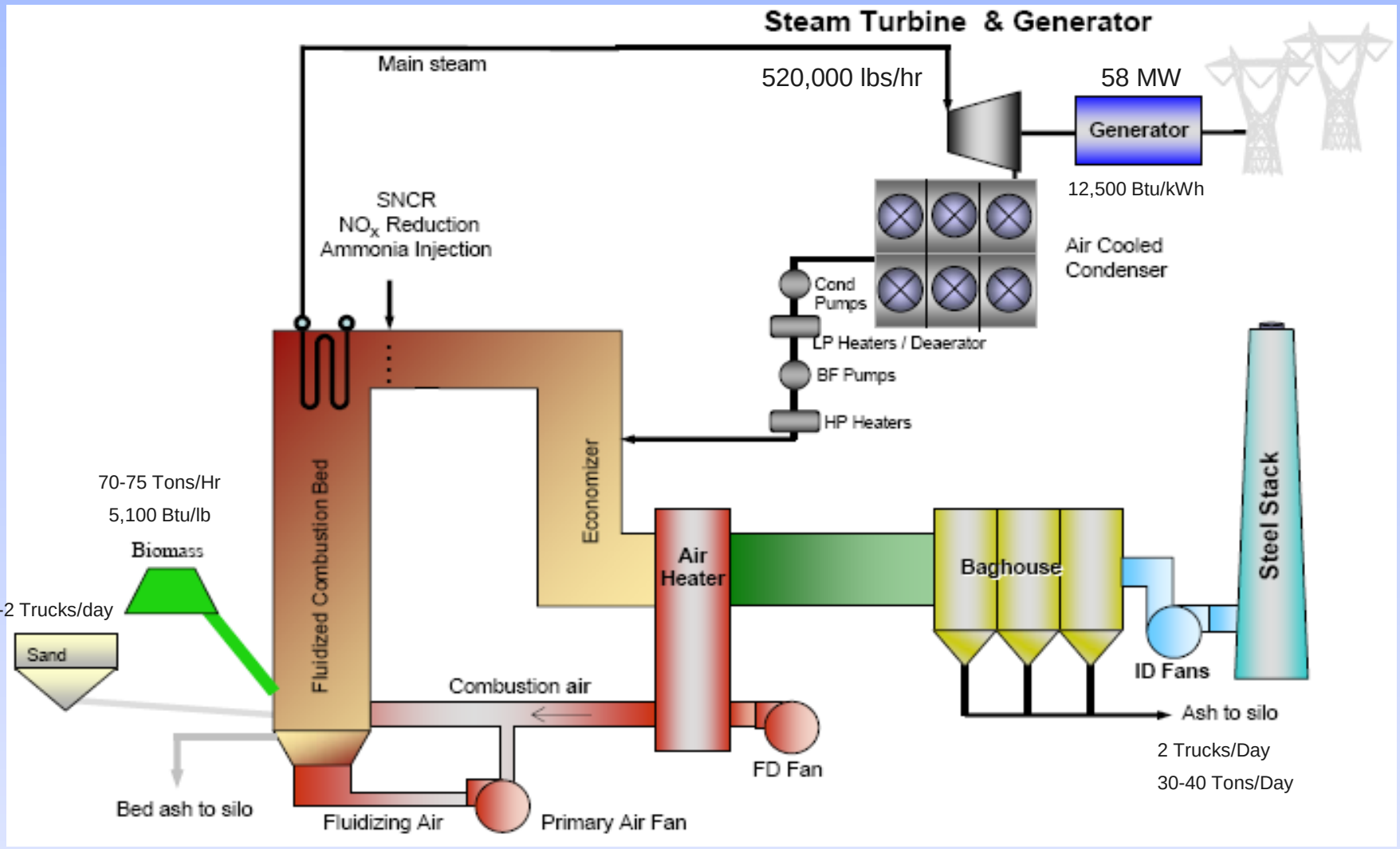
Minor Emission Source

<240 Tons/Yr

- NO_x
- SO_2
- CO
- VOC
- PM
- HCL <10 tpy



Technology - Plant Design



Technology - Overview

DESCRIPTION	UNITS	ANNL MAX OUTPUT W/ OPER. MGN
Main Steam Conditions	*psig/°F*	*1,500 / 950*
Gross Plant Output	*kW-gross*	*67,000*
Net plant heat rate	*Btu/kWh*	*12,500*
Auxiliary Power Requirements	*kW*	*8,500*
Turbine Heat Rate	*Btu/kWh*	*~9,000*
Net Plant Output	*Net-kW*	*58,500*
Full Load Heat Input to Boiler	*mmBtu/hr*	*737*
Fuel Feed Rate	*lb/hr*	*144,000*
Annual Fuel Consumption	*Tons/year*	*540,000*

- Fabric filter to control acid gases and particulate emissions
- SNCR and Sorbent Injection

- Fluidized Bed
- Air-cooled condenser
- Combustion controls to limit NO_x, CO, VOCs emissions

Technology- Boiler Emissions

EMISSION	CONTROLLED EMISSION RATE* lb/mmBtu	EMISSION CONTROL TECHNOLOGY
NO_x	*0.08*	*Selective Non-Catalytic Reduction*
CO	*0.08*	*Combustion Controls*
SO_2	*0.078*	*Low sulfur content of the biomass fuel*
PM (filterable)	*0.020*	*Fabric Filter (FF)*
PM_{10} (filterable)	*0.015*	*Fabric Filter*
Total PM_{10} (filterable + condensable)	*0.028*	*Combustion Controls and FF*
$PM_{2.5}$ (filterable)	*0.011*	*Fabric Filter*
Total $PM_{2.5}$ (filterable + condensable)	*0.024*	*Combustion Controls and FF*
VOC	*0.017*	*Combustion Controls*
Sulfuric Acid Mist	*0.0002*	*Low sulfur content biomass fuel and FF*

* 30 day rolling average

Permitting

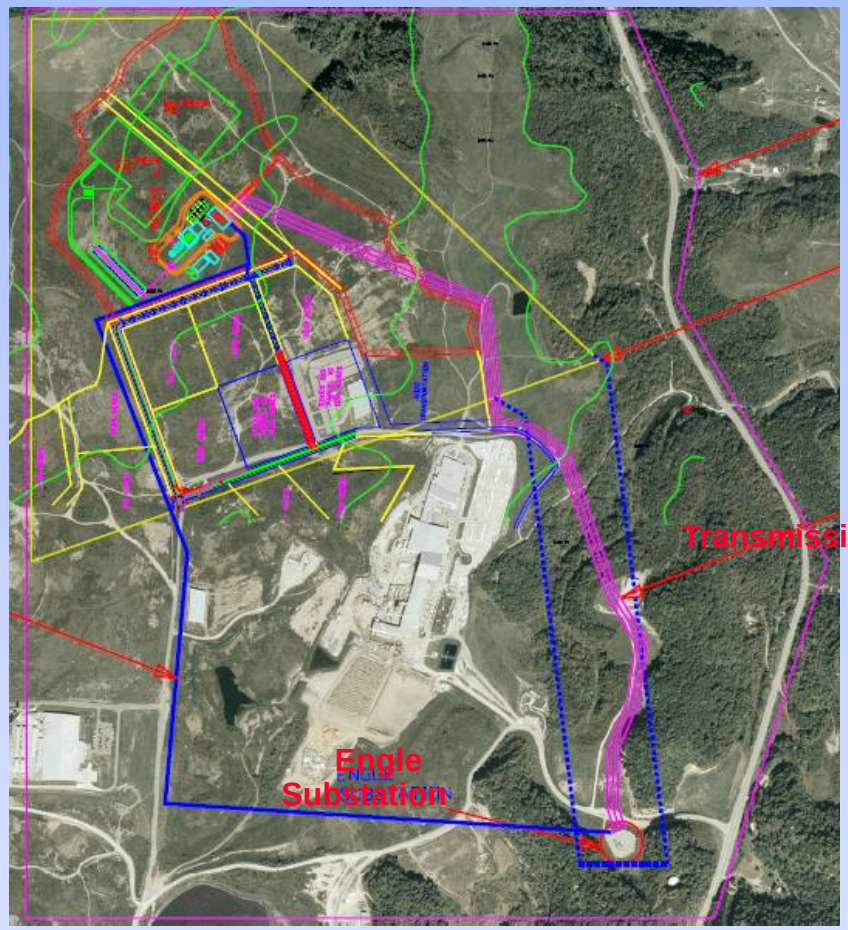
- Kentucky Siting Board Certification approved May 18, 2010
- Final air permit issued June 16, 2010
- Title V operating permit under “synthetic minor” classification

APPROVED!

- Other state/local permits and approvals as required
  - Water
  - Sewer
  - Building

Interconnection – PJM

- Engle 69 kV substation ~ 1 mile off property
- PJM Queue V3-055
- PJM Study indicates no overloads under normal or contingency conditions
- System Impact Study – 6/30/10
- PJM Interconnection Services Agreement – On Hold pending offtake agreement



Schedule Milestones

MILESTONE	DATE
Technical Feasibility Complete	*January 2010*
PJM Interconnection Application	*October 23, 2009*
Siting Board Permit Issued	*May 18, 2010*
Final Air Permit Issued	*June 16, 2010*
Target Financial Close	*Late 2010/Early 2011*
Major Equipment Contracts Awarded	*Financial Close*
Construction Start	*Financial Close*
Commercial Operation	*Summer 2013*

Power Sale Proposal

PRODUCT	58.5 MW Firm Capacity, Energy, Ancillaries and Environmental Attributes at 88% load factor
TERM	20-30 Years
RENEWABLE ENERGY CREDITS (“REC’s”)	Included
PRICE	Fixed with annual escalator/ Fixed Non-escalatable
GUARANTEES	Commercial operation date Capacity and Fuel

Economic Impact

ANNUAL LOCAL ECONOMIC BENEFIT > $16 million

Operations - $2.6 million

40 Full Time Jobs

Maintenance - $1.1 million

Fuel Supply - $12 million

Property Taxes - $0.6 million

CONSTRUCTION PERIOD

200 Jobs for 30-36 months

$18 million per year

Partners

- **A E & E, Inc.**
  EPC Contractor
  Tony Hawranko
  (678) 987-7811

www.aee-group.com

- **Smith Management Group**
  Environmental
  Sara Smith
  (502) 587-6482

www.smithmanage.com

- **Fellon-McCord**
  Energy Management
  Patrick Frazier
  (502) 214-9354

www.fellonmccord.com

- **Greentech Capital Advisors**
  Financial Advisor
  Tim Vincent
  (212) 946-3951

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